

IN THE SPECIFICATION:

Please amend paragraph [0006] as follows:

[0006] Turning to the BOC techniques of wire bonding and TAB, the semiconductor die is directly attached to the surface of a substrate, i.e., printed circuit board, interposer, or carrier substrate, with an appropriate adhesive, such as an epoxy or adhesive tape. The die may be oriented either faceup or facedown (with its active surface and bond pads either up or down with respect to the circuit board) for wire bonding. A plurality of bond wires is then discretely attached to each bond pad on the semiconductor die and extends to a corresponding bond pad on the substrate. The bond wires are generally attached through one of three industry-standard wire bonding techniques: ~~ultrasonic bonding using~~ bonding (using a combination of pressure and ultrasonic vibration bursts to form a metallurgical cold ~~weld; weld);~~ thermocompression ~~bonding using~~ bonding (using a combination of pressure and elevated temperature to form a ~~weld; weld);~~ and thermosonic ~~bonding using~~ bonding (using a combination of pressure, elevated temperature, and ultrasonic vibration ~~bursts; bursts).~~ TAB is generally employed to connect ends of metal leads carried on an insulating tape such as a polyimide respectively to the bond pads on the semiconductor die and the bond pads on the printed circuit board. For both wire bonding and TAB techniques, an encapsulant is typically used to cover the bond wires and metal tape leads to prevent contamination.

Please amend paragraph [0007] as follows:

[0007] Among the different methods of wire bonding a semiconductor die to a substrate, one method includes adhesively attaching a semiconductor die to a substrate in the facedown orientation. In this orientation, the active surface of the die is adhesively attached to a portion of the substrate, i.e., printed circuit board, interposer, or carrier substrate, etc., having one or more wire bonding openings therein so that bond wires can extend through the opening from bond pads on the substrate to bond pads on the active surface of the die. For example, see United States Patent 5,719,440, assigned to the assignee of the present invention, which discloses the die

adhesively attached facedown to a substrate with wire bonding through an opening in the substrate.

Please amend paragraph [0030] as follows:

[0030] An exemplary first embodiment of the method and apparatus incorporating teachings of a semiconductor assembly is shown in drawing FIGS. 1 through 5. Depicted in drawing FIG. 1 is a simplified perspective view of a semiconductor die 110 and a carrier substrate 120 in an unattached position. The semiconductor die 110 includes an active surface 112 and a back surface 114 and is generally rectangular in shape. The semiconductor die 110 is typically made of a semiconductor material, such as germanium, lead sulfide, silicon, gallium arsenide and silicon carbide, but is not limited to such materials. The semiconductor die 110 includes integrated circuitry therein and bond pads 132 located substantially centrally in one or more rows on the ~~back surface 114~~ active surface 112 thereof and, in addition, bond pads 132 located in peripheral outer portions on the ~~back surface 114~~ active surface 112 thereof (see FIG. 2).

Please amend paragraph [0037] as follows:

[0037] In addition, as shown in drawing FIG. 3, the semiconductor die 110 is wire bonded to the carrier substrate 120. In particular, bond wires 140 are made to extend through the opening 126 and attach between the centrally located bond pads 132 on the semiconductor die 110 exposed through the ~~opening~~ opening 126 and the bond pads 128 on the second surface 124 of the carrier substrate 120. The wire bonding may be employed by any known method such as ultrasonic bonding, thermocompression bonding and thermosonic bonding. Therefore, with this arrangement as depicted in drawing FIG. 3, the semiconductor die 110 is electrically interconnected to the carrier substrate 120 by both the bond wires 140 and the conductive bumps 130.